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IN THE UNITED STATES PATENT & TRADEMARK OFFICE

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| IN RE APPLICATION OF | : |
| FERDINAND HARDINGHAUS, ET AL. | : EXAMINER: EDWARD JOHNSON |
| SERIAL NO: 10/581,685 | : |
| FILED: DECEMBER 14, 2006 | : GROUP ART UNIT: 1793 |
| FOR: DEAGGLOMERATED BARIUM SULFATE | : |

# APPEAL BRIEF

This is an appeal to the Board of Patent Appeals and Interferences under 35 U.S.C. § 134 from the August 19, 2009, Final Rejection of Claims 1-28, 30-32 and 34-36 of Application 10/581,685. A Notice of Appeal was timely filed on February 19, 2010, with a request for three months extension of time.

## STATEMENT OF REAL PARTY IN INTEREST

The real party in interest in this appeal is Solvay Infra Bad Hönningen GmbH, of Hannover, Germany.

## STATEMENT OF RELATED APPEALS AND INTERFERENCES

Appellant/Applicant, Appellant/Applicant's legal representative, and assignee, are aware of no appeals, interferences, judicial proceedings, or cases that are related to, directly affect or would be directly affected by, or have a bearing on the decision of the Board of Patent Appeals and Interferences in this appeal.

## STATEMENT OF JURISDICTION

The Board of Patent Appeals and Interferences (Board) has jurisdiction under 35 U.S.C. § 134.

## STATUS OF CLAIMS

Claims 1-28, 30-32 and 34-36 are pending in the Application.

Claims 29 and 33 are cancelled.

Claims 1-28, 30-32 and 34-36 stand rejected.

Claims 1-28, 30-32 and 34-36 are appealed.

The rejections of Claims 1-28, 30-32 and 34-36 are herein appealed.

## STATUS OF AMENDMENTS

No amendments to Claims 1-28, 30-32 and 34-36 on appeal have been entered or submitted after the Examiner's August 19, 2009, final rejection thereof. Applicant filed a request for reconsideration on November 10, 2009. In an Advisory Action emailed to

Appellant on APRIL 12, 2010 (i.e. 5 months after Appellants' request for reconsideration, and only then after repeated requests by Appellant for action) the Examiner indicated that Applicant's request for reconsideration "has been considered but does NOT place the application in condition for allowance because: It is argued that Applicant's claimed dispersant is not disclosed. This is not persuasive because Applicant appears to admit that both "organic esters" and "anionic groups" are disclosed in the secondary reference, Amirzadeh, and it would have been within the purview of an ordinarily skilled artisan to use a compound combining both such features as a dispersant." Because the Advisory Action emailed to Appellants does not appear on PAIR as of the filing of this Brief, the email from the Examiner and the Advisory Action are contained in Appellants' Evidence appendix.

## SUMMARY OF THE CLAIMED SUBJECT MATTER

Independent Claim 1, the only independent claim herein, relates to a deagglomerated barium sulphate (specification page 1, line 1) comprising a dispersant (specification page 4, line 36 - page 5, line 3), primary particles (specification page 2, lines 3-4), and secondary particles (specification page 2, lines 23-29), where the primary particles comprise a crystallization inhibitor and have an average size < 0.1 μm (specification page 2, lines 3-6) and where the dispersant comprises at least one anionic group and is substituted by at least one polyether group (specification page 6, line 32 - page 7, line 9). Preferred crystallization inhibitors include compounds of the following formula (I) or salts thereof having a carbon chain R and n substituents:

$$R\text{-}[A(O)OH]_n \qquad (I),$$

(specification page 3, lines 16-25). See Claim 6. Preferred dispersants are polyether polycarboxylates which are substituted terminally on the polyether groups by hydroxyl groups (specification page 7, lines 10-11). See Claim 16. As specified in Claim 1, in the

present invention the crystallization inhibitor and the dispersant are different compounds (specification page 4, line 36 - page 5, line 3).

The use of barium sulphate as a filler for plastics is already known (specification page 1, line 5). However, the present invention advances the art by providing a finely divided, deagglomerated barium sulphate which is redispersible even after drying and which does not undergo reagglomeration when incorporated into plastic (specification page 1, lines 29- page 2, line 2). This is accomplished herein in part by the use of a dispersant that comprises at least one anionic group which interacts with the barium sulfate surface (specification page 5, lines 6-7) and at least one polyether group, thereby endowing the barium sulfate particles with a surface that prevents reagglomeration and/or inhibits agglomeration electrostatically, sterically, or both electrostatically and sterically (specification page 5, lines 22-25).

## GROUNDS OF REJECTION TO BE REVIEWED

1. Claim 5 stands finally rejected under 35 U.S.C. 112, second paragraph as being incomplete for failure to include the structure of formula (I).

2. Claim 28 stands finally rejected under 35 U.S.C. 112, second paragraph as being incomplete for failure to include constituent (A).

3. Claims 7 and 36 stand finally rejected under 35 U.S.C. 112, second paragraph as including both broad and specific recitations of anionic groups (Claim 7) and as lacking antecedent basis for the term "the stabilizing additive" (Claim 36).

4. Claims 1-3, 17-28 and 33-36 stand finally rejected under 35 U.S.C. 103(a) as being unpatentable over Hardinghaus (WO 01/92157) in view of Amirzadeh-Asl (WO 01/058809).

5. Claims 4-10, 12-13, and 29-32 stand finally rejected under 35 U.S.C. 103(a) as being unpatentable over Hardinghaus (WO 01/92157) in view of Amirzadeh-Asl (WO 01/058809), further in view of D'Muhala (U.S. 4,708,805).

6. Claim 11 stands finally rejected under 35 U.S.C. 103(a) as being unpatentable over Hardinghaus (WO 01/92157) in view of Amirzadeh-Asl (WO 01/058809) and D'Muhala (U.S. 4,708,805) further in view of Bunnomori (U.S. 4,032,479).

7. Claims 14-16 stand finally rejected under 35 U.S.C. 103(a) as being unpatentable over Hardinghaus (WO 01/92157) in view of Amirzadeh-Asl (WO 01/058809) and D'Muhala (U.S. 4,708,805) further in view of Pirrung (U.S. PG Pub. 2004/0236007).

8. Claims 1-17, 19-21, 25-30, 32, 34 and 36 stand finally rejected for provisional obviousness-type double patenting over claims 1-14 of copending application 10/596,007.

9. Claims 1-14, 16-18, 20, 22, 23, and 25-30 stand finally rejected for provisional obviousness-type double patenting over claims 1-14 of copending application 11/916,408.

## ARGUMENT

This is an easy case.

The 35 U.S.C. 112, second paragraph rejections (i.e., rejections 1-3 above) were addressed in Appellants response filed May 20, 2009, and thus the issues noted by the Examiner in the first Official Action no longer exist. Rather than acknowledge Appellants' amendments and withdraw the 35 U.S.C. 112 rejections the Examiner decided to make no comment and make all rejections final.

With regard to the art rejections, none of references describe Appellants' dispersant that must 1) comprise at least one anionic group and 2) be substituted by at least one polyether group. This fact was pointed out to the Examiner in November of 2009.

After receiving no communication from the Office for five months, the Examiner finally sent Appellants an Advisory Action by email in which the Examiner takes the completely incorrect and wholly unsupported position that "Applicant *appears* to admit that both "organic esters" and "anionic groups" are disclosed in the secondary reference, Amirzadeh (emphasis added)." Then, based on this faulty assumption (and carefully avoiding any actual analysis of Amirzadeh on his part) the Examiner simply asserts that because (based on Appellants' alleged admission) "organic esters" and "anionic groups" are disclosed in Amirzadeh it would have obvious to use a compound combining both such features as a dispersant. Wow.

First, of course, Appellants' dispersant comprises at least one anionic group and is substituted by at least one polyether group. Ether groups and ester groups are different and distinct from one another, and there is no evidence of record that they are interchangeable in this art.

Second, Appellant nowhere even *appears* to admit that both "organic esters" and "anionic groups" are disclosed in Amirzadeh. At minimum, Appellant is not concerned with organic esters. Moreover, while Amirzadeh discloses in his list, e.g., soaps and "organic esters" these materials are not differentiated from one another, nor are they suggested as being combinable. The reference thus provides no motivation to select Appellants' specific groups (at least one anionic group and at least one polyether group) and combine the selected specific groups on one molecule.

Appellants suggest that nothing more need be said in order for the rejections to be reversed. However, for the sake of completeness, Appellants address the rejections in turn below.

35 U.S.C. 112, second paragraph rejections

As noted above, there are three 35 U.S.C. 112 rejections:

1. Claim 5 stands finally rejected under 35 U.S.C. 112, second paragraph as being incomplete for failure to include the structure of formula (I).

2. Claim 28 stands finally rejected under 35 U.S.C. 112, second paragraph as being incomplete for failure to include constituent (A).

3. Claims 7 and 36 stand finally rejected under 35 U.S.C. 112, second paragraph as including both broad and specific recitations of anionic groups (Claim 7) and as lacking antecedent basis for the term "the stabilizing additive" (Claim 36).

All of the 35 U.S.C. 112, second paragraph rejections were fully addressed in Appellants' response filed May 20, 2009, in which all of Claims 5, 7, 28 and 36 were amended. The issues noted by the Examiner in the first Official Action and repeated in the final rejection simply no longer exist. The rejections should be REVERSED.

35 U.S.C. 103(a) rejections

There are four rejections under 35 U.S.C. 103(a):

4. Claims 1-3, 17-28 and 33-36 stand finally rejected under 35 U.S.C. 103(a) as being unpatentable over Hardinghaus (WO 01/92157) in view of Amirzadeh-Asl (WO 01/058809).

5. Claims 4-10, 12-13, and 29-32 stand finally rejected under 35 U.S.C. 103(a) as being unpatentable over Hardinghaus (WO 01/92157) in view of Amirzadeh-Asl (WO 01/058809), further in view of D'Muhala (U.S. 4,708,805).

6. Claim 11 stands finally rejected under 35 U.S.C. 103(a) as being unpatentable over Hardinghaus (WO 01/92157) in view of Amirzadeh-Asl (WO 01/058809) and D'Muhala (U.S. 4,708,805) further in view of Bunnomori (U.S. 4,032,479).

7. Claims 14-16 stand finally rejected under 35 U.S.C. 103(a) as being unpatentable over Hardinghaus (WO 01/92157) in view of Amirzadeh-Asl (WO 01/058809) and D'Muhala (U.S. 4,708,805) further in view of Pirrung (U.S. PG Pub. 2004/0236007).

All four rejections critically rely on Hardinghaus (WO 01/92157) and Amirzadeh-Asl (WO 01/058809), and as such these references will be discussed first. In the arguments below the corresponding U.S. PG Pubs of Hardinghaus and Amirzadeh-Asl will be used for citation purposes, as in the Official Actions herein.

Hardinghaus relates to micronized barium sulfate having a primary grain diameter of less than or equal to 0.1$\mu$m [0007] optionally containing a wetting or dispersing agent [0021] selected from various materials described in the reference [0023] and including short chain polyacrylates, polyethers such as polyglycol ethers, etc:

> [0023] Highly useful dispersing agents in the context of the present invention include (short chain) polyacrylates, typically in the form of the sodium salt; polyethers such as polyglycol ether; ether sulfonates such as lauryl ether sulfonate in the form of the sodium salt; esters of phthalic acid and its derivatives; esters of polyglycerol; amines such as triethanolamine; and esters of fatty acids such as stearic acid ester.

No material listed in Hardinghaus meets the description of Appellants' dispersant by comprising at least one anionic group and by being substituted by at least one polyether

group: Hardinghaus' polyethers such as polyglycol ether do not contain anionic groups, and his anionic-group containing materials such as those containing carboxylate and sulfonate groups do not contain polyether groups.[1] The reference also fails to disclose or suggest the use of both a crystallization inhibitor and a dispersant, as presently claimed.

Amirzadeh does not alter or correct this situation, as the reference is directed to barium sulfate particles having an average particle diameter of from 0.1 to 10 $\mu$m (Appellants' primary particles have an average size < 0.1 $\mu$m) achieved by coating the barium sulfate with an "organic additive," as described in [0012] of the reference:

> [0012] This object is achieved by covering the barium sulfate with at least one organic additive, the organic additive being selected from one or more of the substances or groups of substances: carboxylic acids, soaps, metallic soaps, alcohols; polyhydric alcohols, such as pentaerythritol, neopentyl glycol and trimethylolpropane; polyalcohols, such as polypropylene glycol and polyethylene glycol; organic esters, such as neopentyl glycol dibenzoate; silanes, siloxanes, silicone oils, organic sulfones corresponding to the formula RSO2R, organic ketones (R-(C=O)-R), organic nitriles (RCN), organic sulfoxides (R2-SO2), organic amides (R-(C=O)-NR'R or R-(S=O)-ONR'R).

As in Hardinghaus, no material listed in Amirzadeh-Asl meets the description of Appellants' presently claimed dispersant by comprising at least one anionic group and by being substituted by at least one polyether group.

Further, and as noted by the Examiner at page 4 of the first Official Action, these materials are considered to be crystallization inhibitors, and thus do not in any way

[1] The Hardinghaus dispersants correspond to the crystallization inhibitors disclosed in the present invention. See, e.g., specification page 3, lines 9-15.

supplement or make up for that lacking in Hardinghaus in meeting the present claims because the size of the particles in the two references are different, and because even the combination of references fails to disclose or suggest the use of both a crystallization inhibitor and a dispersant which are different from one another, the dispersant comprising at least one anionic group and being substituted by at least one polyether group .

The Examiner has provided absolutely no motivation or guidance as to how or why one of ordinary skill in this art could or would provide a dispersant as presently claimed, different from anything used or suggested in either Hardinghaus or Amirzadeh-Asl, containing at least one anionic group and substituted by at least one polyether group. To do so, the Examiner must provide an explanation as to the structure of such a dispersant, and how it is constructed according to the teachings of the prior art. This has not been done, and the rejection over Hardinghaus (WO 01/92157) in view of Amirzadeh-Asl (WO 01/058809) should be REVERSED.

Tertiary reference D'Muhala fails to make up for that lacking in both Hardinghaus and Amirzadeh as D'Muhala relates to compositions for *solubilizing* barium sulfate, thereby enabling its removal from a surface. See, e.g., column 2, lines 44-50 of the reference. Frankly speaking, what D'Muhala's compositions have in common with the barium sulfate filler particles of Hardinghaus and Amirzadeh-Asl has not yet occurred to Appellants. D'Muhala's compositions containing citric acid, a polycarbazic acid and an alkylenepolyaminopolycarboxylate are described as being useful for solubilizing (i.e. dissolving) barium sulphate, preventing the deposition of barium sulfate, and removing barium sulfate scales (col. 2, lines 52-58 and col. 1, lines 7-13 of the reference). Why would Hardinghaus or Amirzadeh-Asl look to D'Muhala? For what possible purpose? Hardinghaus and Amirzadeh-Asl are trying to *make* barium sulfate particles. D'Muhala is trying to dissolve barium sulfate scale or keep barium sulfate from precipitating. One of ordinary skill

in the art would not be motivated to use an agent directed at, e.g., the *solubilization* of barium sulfate in the *preparation* of *particulate* barium sulfate.

And, D'Muhala doesn't disclose a dispersant comprising at least one anionic group and being substituted by at least one polyether group. The fact that citric acid has two carboxylate groups and a hydroxyl group misses limitation that Appellants' dispersant be substituted by at least one polyether group. Accordingly, the rejection over Hardinghaus (WO 01/92157) in view of Amirzadeh-Asl (WO 01/058809), further in view of D'Muhala (U.S. 4,708,805) should be REVERSED.

Bunnomori also fails to disclose or suggest a dispersant comprising at least one anionic group and being substituted by at least one polyether group. The Examiner cites to col. 6, lines 27-45 of the reference apparently for the generic disclosure that esters of phosphoric acid can be used in the disclosed rubber compositions. Regardless of the propriety of the combination of Bunnomori with Hardinghaus, Amirzadeh-Asl and D'Muhala, the reference in no way discloses the dispersant of Claim 11 (a phosphoric diester having a polyether group and a C6-C10 alkenyl group as moieties) and the Examiner has provided absolutely no attempt at showing that the claimed chemical structure would have been obvious. For theses reasons the rejection over Hardinghaus (WO 01/92157) in view of Amirzadeh-Asl (WO 01/058809) and D'Muhala (U.S. 4,708,805) further in view of Bunnomori (U.S. 4,032,479) should be REVERSED.

Finally, Pirrung, applied against Claims 14-16, is cited for its disclosure in paragraph 64 thereof of "polyether dispersants." Regardless of the propriety of the combination of Pirrung with Hardinghaus, Amirzadeh-Asl, D'Muhala, and Bunnomori the reference in no way discloses the dispersant as claimed in any of Claims 14-16 (requiring that the claimed dispersant, in addition to comprising at least one anionic group and that it be substituted by at least one polyether group (see Claim 1), also have polyether groups substituted by hydroxyl

groups or amino groups (Claim 14), that the the hydroxyl groups and amino groups of Claim 14 function as reactive groups for coupling to or into polyepoxide resins (Claim 15) and that the dispersant is a polyether polycarboxylate which is substituted terminally on the polyether groups by hydroxyl groups(Claim 16)). The Examiner has provided absolutely no attempt at showing that the claimed chemical structure would have been obvious based on the disclosure in Pirrung of "polyether dispersants." For theses reasons the rejection over Hardinghaus , Amirzadeh-Asl, D'Muhala, and Bunnomori further in view of Pirrung should be REVERSED.

While the above argument applies to all claims as all claims include the limitation in Claim 1 that Appellants' dispersant must 1) comprise at least one anionic group and 2) be substituted by at least one polyether group, the argument applies with particular specificity to each and every dependent claim, as, for example, the structure of the dispersants in, e.g., Claims 7, 8, and 9-16 are nowhere disclosed or suggested by either reference or their combination. See for example Claim 16. Where is a polyether polycarboxylate which is substituted terminally on the polyether groups by hydroxyl groups disclosed or suggested by any reference applied against any claim?

Double Patenting

There are two double patenting rejections:

8. Claims 1-17, 19-21, 25-30, 32, 34 and 36 stand finally rejected for provisional obviousness-type double patenting over claims 1-14 of copending application 10/596,007.

9. Claims 1-14, 16-18, 20, 22, 23, and 25-30 stand finally rejected for provisional obviousness-type double patenting over claims 1-14 of copending application 11/916,408.

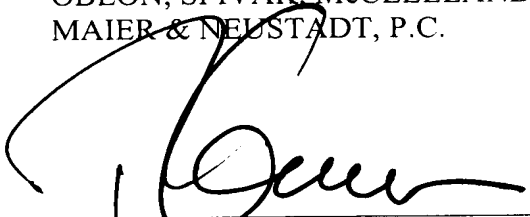
Applicants note that both copending applications cited are later-filed applications. Serial No. 10/596,007 has not yet been examined. Serial No. 11/916,408 already contains a Terminal Disclaimer over the present application. Accordingly, and as specified in MPEP 804, the rejections should be withdrawn and this case passed to Issue. As Appellants' have previously offered, if the Examiner now finds this case to be in condition for allowance but for the presence of a Terminal Disclaimer, the Examiner is requested to contact the undersigned attorney by telephone to arrange the possible filing of a Terminal Disclaimer to place this case in condition for Allowance.

## CONCLUSION

For the reasons stated, the Final Rejections should be REVERSED.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.



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## CLAIMS APPENDIX

Claim 1 (Rejected): A deagglomerated barium sulphate comprising a dispersant, primary particles, and secondary particles, wherein said primary particles comprise a crystallization inhibitor and have an average size < 0.1 μm, wherein the crystallization inhibitor and the dispersant are different compounds and wherein the dispersant comprises at least one anionic group and is substituted by at least one polyether group.

Claim 2 (Rejected): The deagglomerated barium sulphate according to Claim 1, wherein 90% of the secondary barium sulphate particles are smaller than 250 nm.

Claim 3 (Rejected): The deagglomerated barium sulphate according to Claim 1, wherein the crystallization inhibitor is selected from compounds having at least one anionic group.

Claim 4 (Rejected): The deagglomerated barium sulphate according to Claim 3, wherein the anionic group of the crystallization inhibitor is at least one sulphate, at least one sulphonate, at least two phosphate, at least two phosphonate or at least two carboxylate group(s).

Claim 5 (Rejected): The deagglomerated barium sulphate according to Claim 1, wherein the crystallization inhibitor is a compound of the formula (I) or salt thereof having a carbon chain R and n substituents

$$R\text{-}[A(O)OH]_n \qquad (I),$$

in which R is an organic radical which has hydrophobic and/or hydrophilic moieties, R being a low molecular mass, oligomeric or polymeric, optionally branched and/or cyclic carbon chain which optionally contains oxygen, nitrogen, phosphorus or sulphur heteroatoms, and/or being substituted by radicals which are attached via oxygen, nitrogen, phosphorus or sulphur to the radical R, and

A being C, P(OH), OP(OH), S(O) or OS(O),

and n being 1 to 10 000.

Claim 6 (Rejected): The deagglomerated barium sulphate according to Claim 1, wherein the crystallization inhibitor is a carboxylic acid having at least two carboxylate groups and at least one hydroxyl group, an alkyl sulphate, an alkylbenzenesulphonate, a polyacrylic acid or an optionally hydroxy-substituted diphosphonic acid.

Claim 7 (Rejected): The deagglomerated barium sulphate according to Claim 1, wherein the dispersant has one or more anionic groups selected from carboxylate, phosphate, phosphonate, bisphosphonate, sulphate and sulfonate groups.

Claim 8 (Rejected): The deagglomerated barium sulphate according to Claim 1, wherein the dispersant endows the barium sulphate particles with a surface which prevents reagglomeration and/or inhibits agglomeration electrostatically, sterically or both electrostatically and sterically.

Claim 9 (Rejected): The deagglomerated barium sulphate according to Claim 8, wherein the dispersant has carboxylate, phosphate, phosphonate, bisphosphonate, sulphate or

sulphonate groups which are able to interact with the barium sulphate surface and which have one or more organic radicals $R^1$ which have hydrophobic and/or hydrophilic moieties.

Claim 10 (Rejected): The deagglomerated barium sulphate according to Claim 9, wherein $R^1$ is a low molecular mass, oligomeric or polymeric, optionally branched and/or cyclic carbon chain which optionally contains oxygen, nitrogen, phosphorus or sulphur heteroatoms and/or is substituted by radicals which are attached via oxygen, nitrogen, phosphorus or sulphur to the radical $R^1$ and the carbon chain is optionally substituted by hydrophilic or hydrophobic radicals.

Claim 11 (Rejected): The deagglomerated barium sulphate according to Claim 9, wherein the dispersant is a phosphoric diester having a polyether group and a C6-C10 alkenyl group as moieties.

Claim 12 (Rejected): The deagglomerated barium sulphate according to Claim 9, wherein the dispersant has groups for coupling to or into polymers.

Claim 13 (Rejected): The deagglomerated barium sulphate according to Claim 12, wherein the dispersant prevents reagglomeration sterically and is a polymer which is substituted by polar groups, and as a result thereof the barium sulphate particles are externally hydrophilicized.

Claim 14 (Rejected): The deagglomerated barium sulphate according to Claim 13, wherein the dispersant has polyether groups substituted by hydroxyl groups or amino groups.

Claim 15 (Rejected): The deagglomerated barium sulphate according to Claim 14, wherein the hydroxyl groups and amino groups function as reactive groups for coupling to or into polyepoxide resins.

Claim 16 (Rejected): The deagglomerated, additionally deagglomerable barium sulphate according to Claim 15, wherein the dispersant is a polyether polycarboxylate which is substituted terminally on the polyether groups by hydroxyl groups.

Claim 17 (Rejected): The deagglomerated barium sulphate according to Claim 1, wherein the crystallization inhibitor and the dispersant are each present in the deagglomerated barium sulphate in an amount of up to 2 parts by weight per part by weight of barium sulphate.

Claim 18 (Rejected): The deagglomerated barium sulfate according to Claim 1, wherein it is obtained

a) by wet-grinding a barium sulphate precipitated using a crystallization inhibitor, the wet grinding taking place in the presence of the dispersant, or

b) by precipitating barium sulphate in the presence of a crystallization inhibitor and of a dispersant which prevents reagglomeration and/or inhibits agglomeration electrostatically, sterically, or both electrostatically and sterically.

Claim 19 (Rejected): The deagglomerated barium sulphate according to Claim 1, wherein it is in the form of a suspension in water, in an organic liquid, in a mixture of water and organic liquid, or as a suspension in a plastics premix, it being possible for stabilizing additives to be present.

Claim 20 (Rejected): The deagglomerated barium sulphate in the form of a suspension according to Claim 19, wherein it is present in the suspension in an amount of 0.1 % up to 70% by weight.

Claim 21 (Rejected): A dry powder which can be redispersed to form deagglomerated barium sulphate, obtainable by drying deagglomerated barium sulphate according to Claim 1.

Claim 22 (Rejected): A process for preparing deagglomerated barium sulphate according to Claim 1, wherein

a) precipitated barium sulphate having a primary particle size of $< 0.1$ $\mu$m is deagglomerated and optionally dried in the presence of a dispersant and water or an organic liquid or a mixture thereof, starting from barium sulphate precipitated in the presence of a crystallization inhibitor, or

b) barium sulphate having a primary particle size of $< 0.1$ $\mu$m is precipitated in the presence of a crystallization inhibitor and a dispersant which prevents reagglomeration and/or inhibits agglomeration, and is optionally dried.

Claim 23 (Rejected): The process according to Claim 22, wherein barium sulphate with a primary particle size $< 0.1$ $\mu$m is precipitated or used and the barium sulphate is optionally deagglomerated until 90% of the secondary particles are $< 1$ $\mu$m.

Claim 24 (Rejected): The process according to Claim 22 , wherein the deagglomerated barium sulphate is dried and/or processed, optionally with addition or

removal of water, an organic liquid or a mixture of both, to give a suspension which contains water or an optionally water-containing organic liquid.

Claim 25 (Rejected): A plastics premix comprising deagglomerated barium sulphate according to Claim 1.

Claim 26 (Rejected): A method of use of deagglomerated barium sulphate according to Claim 1 for producing plastics or adhesives.

Claim 27 (Rejected): A plastic or adhesive comprising deagglomerated barium sulphate according to Claim 1.

Claim 28 (Rejected): A curable composition comprising at least one curable constituent selected from the group consisting of low molecular mass, oligomeric and polymeric compounds and deagglomerated barium sulphate according to Claim 1.

Claim 29 (Cancelled)

Claim 30 (Rejected): The barium sulphate according to Claim 1, wherein the barium sulphate has a primary particle size of < 30 nm.

Claim 31 (Rejected): The barium sulphate according to Claim 1, wherein the barium sulphate has a BET surface area of at least 30 $m^2/g$.

Claim 32 (Rejected): The barium sulphate according to Claim 1, wherein the crystallization inhibitor is citric acid.

Claim 33 (Cancelled)

Claim 34 (Rejected): The deagglomerated barium sulphate according to Claim 1, wherein 90% of the secondary barium sulphate particles are smaller than 2 $\mu$m.

Claim 35 (Rejected): The deagglomerated barium sulphate according to Claim 1, wherein the crystallization inhibitor and the dispersant are each present in the deagglomerated barium sulphate in an amount of 1% to 50% by weight per part by weight of barium sulphate in each case.

Claim 36 (Rejected): The deagglomerated barium sulphate according to Claim 19, wherein a stabilizing additive is present and is a carboxylic acid.

## MEANS OR STEP PLUS FUNCTION ANALYSIS SECTION

There are no claims with means or step plus function language on appeal.

## EVIDENCE SECTION

Email dated April 12, 2010, from Examiner Johnson to Appellants' Attorney, and accompanying Advisory Action.

## Rick Treanor

**From:** Johnson, Edward (AU1754) [Edward.Johnson@USPTO.GOV]
**Sent:** Monday, April 12, 2010 10:34 AM
**To:** Rick Treanor; Silverman, Stanley
**Subject:** RE: U R G E N T 10/581,685
**Attachments:** treanorsAdvisory.doc

Mr. Treanor

I apologize for the repeated delays in the scanning/mailing of this advisory action. I've attached a copy of it to this email.

Edward M. Johnson
Primary Examiner AU 1793

**From:** Rick Treanor [mailto:RTreanor@oblon.com]
**Sent:** Monday, April 12, 2010 9:38 AM
**To:** Silverman, Stanley; Johnson, Edward (AU1754)
**Subject:** U R G E N T 10/581,685

Dear Examiners Silverman and Johnson,

I have called you both repeatedly about this case, most recently last week. I also left you both messages again today.

I filed a response in this case in NOVEMBER 2009.

I have not heard anything from you, and there is nothing in PAIR.

Please send me something **today** and contact me to let me know how it is coming to me (fax/email) or if it is posted on PAIR.

Thank you,
Rick Treanor
703.412.6007 (direct)

| **Advisory Action Before the Filing of an Appeal Brief** | **Application No.** 10/581,685 | **Applicant(s)** HARDINGHAUS ET AL. |
|---|---|---|
| | **Examiner** Edward M. Johnson | **Art Unit** 1793 |

***--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --***

THE REPLY FILED 10 November 2009 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:
   a) ☒ The period for reply expires 3 months from the mailing date of the final rejection.
   b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

   Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

NOTICE OF APPEAL

2. ☐ The Notice of Appeal was filed on _____. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

AMENDMENTS

3. ☐ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because
   (a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);
   (b) ☐ They raise the issue of new matter (see NOTE below);
   (c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
   (d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

   NOTE: _____. (See 37 CFR 1.116 and 41.33(a)).
4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).
5. ☐ Applicant's reply has overcome the following rejection(s): _____.
6. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
7. ☐ For purposes of appeal, the proposed amendment(s): a) ☐ will not be entered, or b) ☐ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.

   The status of the claim(s) is (or will be) as follows:
   Claim(s) allowed: _____.
   Claim(s) objected to: _____.
   Claim(s) rejected: *1-28,30-32 and 34-36*.
   Claim(s) withdrawn from consideration: _____.

AFFIDAVIT OR OTHER EVIDENCE

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).
9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing a good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).
10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

REQUEST FOR RECONSIDERATION/OTHER

11. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because: See Continuation Sheet.
12. ☐ Note the attached Information *Disclosure Statement*(s). (PTO/SB/08) Paper No(s). _____
13. ☐ Other: _____.

/Edward M. Johnson/
Primary Examiner
Art Unit: 1793

Continuation of 11. does NOT place the application in condition for allowance because: It is argued that Applicant's claimed dispersant is not disclosed. This is not persuasive because Applicant appears to admit that both "organic esters" and "anioic groups" are disclosed in the secondary reference, Amirzadeh, and it would have been within the purview of an ordinarily skilled artisan to use a compound combining both such features as a dispersant.